UNION CARBIDE

—Y-12 BULLETIN

A Newspaper For Y-12 Employees of Union Carbide Corporation—Nuclear Division

Vol. 22 — No. 13 OAK RIDGE, TENNESSEE Wednesday, March 27, 1968

WALTER CRONKITE, CBS News correspondent and principal reporter for "The 21st Century" series, produces three-tenths of a volt of electricity — enough to demonstrate the MHD (magnetohydrodynamic) power generation principle — by passing the flame of an acetylene torch through a magnetic field. The future potential of MHD generation will be revealed in the "Industries of the Future" broadcast of "The 21st Century" series on Sunday, March 31, at 6 p.m., EST, in color on the CBS Television Network. The program is carried locally by WBIR-TV, Channel 10. Cronkite demonstrated the principle recently at the Union Carbide exhibition of 21st century technology at the UCC headquarters in New York City.

'Industries Of Future' Will Be Seen On 21st Century TV Program Sunday

A power system which could light a small city with one electric generator will be revealed in the "Industries of the Future" broadcast of "The 21st Century" series Sunday, March 31, at 6 p.m., EST, in color on the CBS Television Network. The program is carried locally by WBIR-TV, Channel 10. CBS News Correspondent Walter Cronkite is principal reporter for the series, sponsored in the public interest by Union Carbide Corporation.

The new system, known as MHD (magnetohydrodynamics) uses a combination of extreme heat and extreme cold in a single generator. Gas could be heated by a nuclear reactor to more than 5,000° in a metal channel surrounded by a powerful magnetic field. The field produces an electrical current in the gas, whose high temperature greatly intensifies the current.

Extreme cold could be used in the magnet that creates the MHD field. Extremely cold wires reduce electrical resistance to a point where a single small-gauge wire can be made to carry enormous electrical loads for an indefinite period. Such wires are used in the magnet that creates the MHD magnetic field, greatly increasing the power of the generator. And MHD is almost free of pollution.

Other products of the future unveiled on this program are those produced by the technology of micro-electronics. An ant-sized electronic circuit, 1/16th of an inch square, will be shown, as well as the attache case of the future, containing a TV set, a television camera, a computer and a picture phone. Another feature of the program will be a radar receiver about a foot square.

Another infant technique of today which may become a great industry of tomorrow is fluidics. Fluidics uses varying pressures of liquids or gases to accomplish results which now can be achieved through electric devices.

A new fiber is being developed that expands and contracts according to temperture. A twenty-first century sweater made of such responsive fibers could be worn all year round, keeping the wearer warm in winter and cooler in summer.

It will also be possible to prepare fibers so that they can receive different colors from a single dye—a yarn could be dipped in one solution and come out tinted with as many as five colors.

Still another twenty-first century product is synthetic surfacing material that is just as yielding as turf but hard enough to resist the heaviest rain. If used on a race track, a baseball or football field, there would never be any mud to contend with. It has already been adopted for the Olympic games in Mexico this year.

"Industries of the Future" was written by John Wilkman and directed by David Tapper. Fred Warshofsky is science editor for the series; Isaac Kleinerman, producer; and Burton Benjamin, executive producer. "The 21st Century" is a production of CBS News.

Clerical Training School Is Started

The Nuclear Division of Union Carbide Corporation has established a new Clerical Training School to make clerical employment available to disadvantaged persons, considered trainable and well-motivated, at the three U. S. Atomic Energy Commission installations here.

The pilot program, an outgrowth of the President's Youth Opportunity Campaign, will provide 12 weeks of classroom training for 10 young women considered potentially employable in clerical positions.

The training, which began March 4 at the Oak Ridge Gaseous Diffusion Plant, includes secretarial instruction in basic subjects (mathematics, shorthand, typing, grammar and office procedures) and exercises in solving problems that may be encountered in actual work environment. The trainees will receive a salary during their training period. Those who successfully complete the course will be considered for employment at Oak Ridge National Laboratory, Y-12 or ORGDP.

These trainees were selected from clerical employment applicants who did not meet UCC job standards. They were selected on the basis of potential ability and economic need.

If the training school proves of value in developing future employees for the AEC installations, additional programs of this type may be conducted.

Since 1965, the three plants have participated in the Summer Youth Opportunity Program aimed at providing temporary jobs for young people and enabling them to continue their education. This new program differs from the Summer Program in that more emphasis is placed on classroom training, and trainees who successfully complete the course are to be considered for permanent employment.

In addition to the Clerical Training School and Summer Program, over 200 young nonemployees are being taught technological skills in the Training and Technology (TAT) project conducted at Y-12. The University of Tennessee and Oak Ridge Associated Universities assist Union Carbide in the operation of the TAT project.

Congratulations!

Congratulations to Theira Flood, Chemical Engineering Development. She was recently installed as a Worthy Matron in the Clinton Chapter of the Order of Eastern Star.

SAFETY SCOREBOARD

The Y-12 Plant Has Operated

Two Days Or 6,000 Man-Hours

(Unofficial Estimate)

Through March 24

Without a Disabling Injury

Safety At Home At Work, At Play

UCC Annual Report Shows 1967 Sales From Outside USA Increases

23 Per Cent Of Worldwide Sales Now Come From Customers From Outside United States

Approximately $590 million, or 23 per cent, of Union Carbide Corporation's $2,546 million worldwide sales in 1967 were to customers outside the United States and Puerto Rico, according to the corporation's annual report mailed recently to stockholders. The 1966 figure, reconstructed on the new basis of worldwide consolidation that Union Carbide put into effect with its 1967 report, was $574 million out of a total of $2,587 million in worldwide sales. The report highlights this growing multinational aspect of Union Carbide's business, featuring 32 countries in which the corporation and its affiliated companies operate production facilities.

As previously reported, Union Carbide's net income for 1967 was $171 million, or $2.82 a share. A year ago, it was $240 million, or $3.97 a share. Stockholders were told that earnings for the year were affected by several factors. Among them were the lower level of sales, which resulted in underutilization of capacity; the effects of work stoppages at several locations at the start of the year; and the impact of costs associated with the corporation's large-scale expansion program.

Last year, Union Carbide again made a substantial contribution to the nation's international balance of payments. It amounted to $122 million. The major contributing factors were export sales of $170 million and dividends of $15 million from affiliated companies operating outside the United States and Puerto Rico.

Petrochemical Industry Leading Contributor To Trade Balance

It was pointed out that the United States petrochemical industry has been the leading contributor to a favorable trade balance; and that, if this position is to be maintained, the industry must have access to crude oil and other hydrocarbon raw materials at world prices. During the year, Union Carbide and other petrochemical producers continued their efforts toward this goal.

In support of its needs for hydrocarbon raw materials and fuel, the corporation set up Union Carbide Petroleum Corporation as a subsidiary late in 1967 to be responsible for acquiring petroleum reserves. Union Carbide owns gas-producing properties in the Appalachian area and has interests in oil- and gas-producing properties in the Texas-Louisiana Gulf Coast Area.

A breakdown of sales by eight key product groups indicates that chemicals contributed 27 per cent of Union Carbide's total worldwide sales. Consumer and related products were second, with 19 per cent. Their highest contributor was the group made up of gases and related products, with 15 per cent. Metals and plastics each accounted for 14 per cent; carbon products, seven per cent; materials systems, three per cent; and electronics one per cent.

It was reported that the corporation's sales in the United States were below original expectations for 1967. Most of its major product groups were affected by the slow pace of business not only in the United States but also in other parts of the world—particularly the United Kingdom and western Europe—and by inventory adjustments that were undertaken in several industries.

Consumer Products Group See Increase In Sales For Year

The consumer products was a notable exception. The increasing popularity of battery-operated appliances resulted in record sales of Union Carbide's established Eveready battery products in 1967. The demand for specialized military batteries was also strong. Sales records were again achieved by the corporation's Glad line of plastic household products—wrap, bags, and drinking straws—as consumer demand continued to grow. There were also increases in sales of food casings and packaging materials.

Union Carbide's chemicals and plastics business was adversely affected by reduced demand in the automotive, housing, and textile industries. Good growth, however, was reported in sales of a number of products—especially silicones (with diversified uses in many fields), acrylates (used in water-based paints), agricultural chemicals, and products used by the petroleum and cosmetic industries.

Long-Range Growth Seen In Demand For Carbon Products

Although industrial carbon product sales were slightly below last year's level, there continues to be evidence of long-range growth in the demand for many carbon products—

Continued on Page 4

The Bulletin

Published Weekly For The
Y-12 Employees Of
UNION CARBIDE
CORPORATION

UNION CARBIDE

NUCLEAR DIVISION

JAMES A. YOUNG ..... *Editor*

Member *Appalachian Industrial Editor's Association*

American Association Industrial Editors

OFFICE
Post Office Box Y
Oak Ridge, Tenn. 37830
Telephone 3-7100

First Lost-Time Accident Recorded

Y-12 suffered its first lost-time accident of the year last Friday, March 22.

An employee in Buildings, Grounds and Maintenance Shops was pulling a tube from a condenser, using either a pair of vice grips or channel lock pliers. The grips slipped or the tube suddenly loosened causing the employee to shift his weight suddenly onto one foot. He turned his right ankle, which resulted in a fracture and dislocation. He was admitted to Oak Ridge Hospital Friday for an undetermined stay.

The string of accident-free days broke at 85 . . . or approximately 2,610,000 man-hours.

April is ushered in with only 15 year veterans observing important landmarks with Union Carbide Corporation. Congratulations to them!

15 YEARS

Clarence R. Eichelberger, Area Five Maintenance, March 30.

Lois J. Secrist, Data Processing, March 30.

Stephen J. Adamski, Tool Engineering, March 31.

Wanda S. Hawn, Cashier and Travel, March 31.

Jerry L. Hyder, Research Services, April 1.

Cecil S. Davidson, Guard Department, April 2.

Jaycettes Set Fashion Show Friday At Club

The Jaycettes of Oak Ridge are sponsoring a Fashion Show-Dance Friday, March 29, at 8:30 p.m. at the Oak Ridge Country Club. Music will be provided by Charley Baker and his combo. Fashions will be by Handsome House and Bailoffs.

Models include Mesdames John Shacter, Waldo Cohn, Warren Bridges, Robert Snyder, E. G. Richardson Jr., Milt Carey, William Dunlap and Robert Harbour. Male models include Milt Carey, Al Bissell, Dr. Vance Sharp, Harry Lillard, John Shacter, Leonard McCoy, Waldo Cohn, Hank Stoner and Paul Ebert.

Donation tickets are $5 per couple, and all proceeds go to the Recording for the Blind for their building fund.

Mrs. Joe Sherrod and Mrs. A. B. Miller are co-chairing the big event.

Careful what you say — the wrong person could hear you.

ASNT Is Holding Annual Workshop

The Oak Ridge Section of the American Society for Nondestructive Testing is currently sponsoring its fifth annual educational workship. The sessions this year bear the theme of ULTRASONIC TESTING.

Two sessions have already been held . . . March 21 and 25. Two additional remain . . . one tomorrow, Thursday, March 28 at 7 p.m. at the Oak Ridge High School. John V. Dowling, Sperry Products Division of Automation Industries, Inc., Danbury, Connecticutt, will speak on "Ultrasonic Immersion Testing, Inspection Systems, and Special Applications."

The Saturday, March 30, session begins at 9 a.m. in Y-12's Training Facility, Building 9709. Special permission has been obtained to admit uncleared personnel into the Y-12 training facility. Y-12ers W. D. Ross, R. M. Hughes, G. A. Burton and R. E. Cofield will conduct informal sessions at the laboratories.

Joel W. Garber is acting as Workship Chairman. The local ASNT officers are Earl L. Price, chairman; S. D. Snyder, vice chairman; L. G. Losh, secretary; and J. W. Redmond, treasurer. K. V. Cook, L. M. Fitzgerald, Garber and Jack Johnson are on the board of directors.

Badge Exchange Time Returns To Y-12

Friday, March 29, will see the return of yellow-bordered badges for Y-12ers, as it's quarterly badge-swap time again.

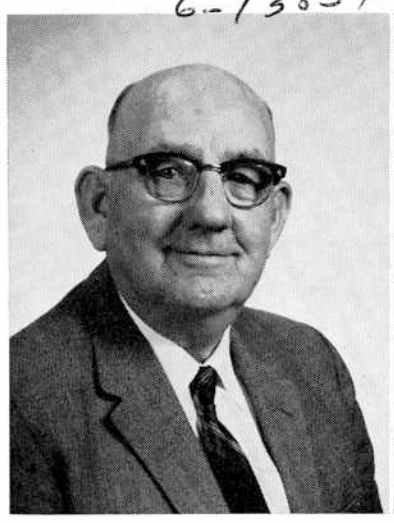
The new second quarter badges will stay in the self-service racks at all of Y-12's portals through the day shift and up until 11 p.m. Wednesday, April 10.

Y-12ers not exchanging their own badges by then will have to report to Badge and Pass, Building 9704-2, to obtain new yellow badges.

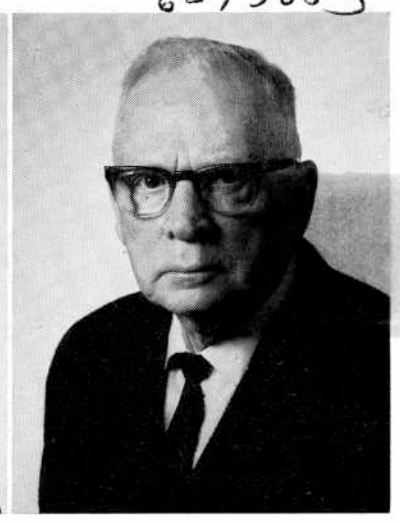
Will join car pool from 102 Alger Lane, Oak Ridge, to West Portal, straight day. J. P. Konopka, plant phone 3-5081, home phone Oak Ridge 483-1902.

Brantley, Gilcrease, Hammer, Shoffner, Smith Retire Friday After Long Careers In Y-12

Five Y-12ers make retirement exits Friday, ending long careers with Union Carbide Corporation. They are Frank L. Hammer, Guard Department; Joseph E. Shoffner, Area Five Maintenance; and William F. Smith, Electrical. Troy E. Brantley, Alpha Five Machine Shop; and Othniel E. Gilcrease, Electrical Engineering, have elected early retirements.



Troy E. Brantley



Othniel E. Gilcrease

Troy E. Brantley, a native of Sharps Chapel, Tennessee, now lives at 416 Elm Street, LaFollette.

He came to Y-12 April 16, 1951. Most of his early life was spent farming. From 1941-1943 he worked with Bethlehem Steel, Baltimore . . . but returned to farm and stayed there until 1950. He worked about a year with Maxon Construction, here in Oak Ridge, before coming to Y-12.

Married to the former Pernia Ivey, Brantley has two sons, Frank T., Leesburg, Florida; and Robert E. Brantley Jacksboro. The Brantleys also have four grandchildren.

He has no definite retirement plans other than gardening and raising pigs. He says he is not retiring . . . 'just not coming to work anymore!'

Frank L. Hammer

Joseph E. Shoffner

Othniel E. Gilcrease, Electrical Engineering, is a native of Noble, Louisiana. "Gil" lives at 107 Dana Drive, Oak Ridge, with his wife the former Esther Elam. He is a graduate of Louisiana Polytechnic Institute, in Ruston.

The well-known Y-12er came here September 29, 1943 after serving in the U. S. Army. Prior to his military career he was in education, and was with the CCC from 1935 until 1941 as an educational advisor.

Gil says he plans to remain in Oak Ridge, just playing retirement by ear. He is a Sunday golfer and has been a regular in Y-12 tournaments for several years.

Guard Frank L. Hammer, a native-born Tennessean was originally from Dandridge. He now lives on his 10-acre baby farm on Route 18, Knoxville.

He came to Y-12 March 27, 1945, after farming near White Pine, Tennessee from 1928 until 1945.

Mrs. Hammer is the former Barbara Reynolds and they have one daughter Mrs. Barbara H. Bayne, Knoxville.

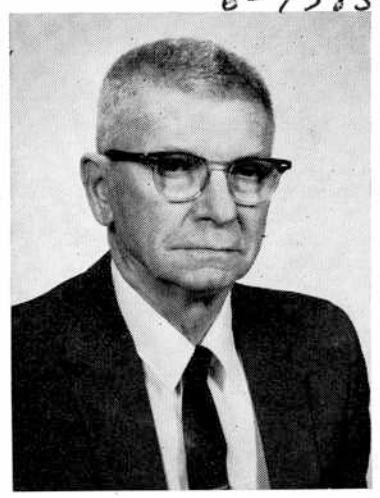
He plans to work around home during his up-coming spare time. He says they have a big lawn, and like garden products. "I might even squeeze in some fishing," he declares.

Joseph E. Shoffner was born in Burlington, North Carolina and worked there in his youth with the Elder Finishing Mill and the Griffin Hosiery Mill. From 1951 until 1953 he was with the B. F. Shaw Company and DuPont in Barnwell, South Carolina.

Shoffner came to Y-12 September 15, 1953.

Mrs. Shoffner is the former Ola Josephine Miles, and they live at 310 West Outer Drive, Oak Ridge. They have a daughter Mrs. Patsy Moore, Greensboro, North Carolina . . . and a son Joseph E. Shoffner Jr., Edenton, North Carolina. There are three grandchildren.

No retirement plans have jelled yet for the Area Five Maintenance man.



William F. Smith

William F. Smith, a native of Phil Campbell, Alabama, came here January 6, 1944. He now lives at 338 East Fairview Road, Oak Ridge.

Mrs. Smith is the former Cora Hampton.

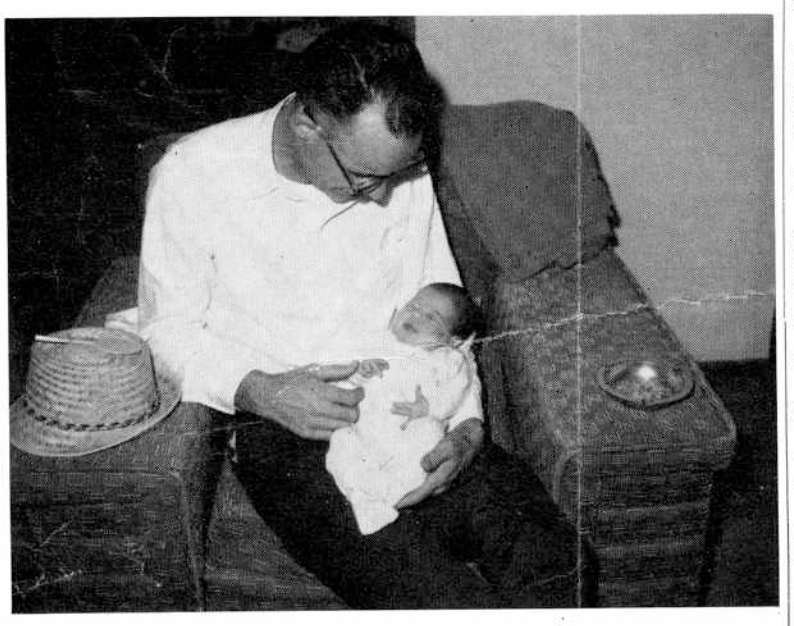
From 1916 until 1933 Smith farmed in Appleton, Tennessee. From 1933 until 1940 he was with the Tennessee Valley Authority, on dams such as Wilson, Joe Wheeler, Pickwick and Hiawassee.

He worked briefly with the Corinity, Mississippi, Armature Works, and from 1943 until 1944 was with Stone and Webster here in Oak Ridge.

The Smiths have two sons . . . Billy L., Glasgow, Montana; and Jerry D. Smith, Oak Ridge. They also have three daughters Mrs. Martha Parteka, and Qualia Amos, both of Clinton; and Frankie Adams, in Nevada. They also have 10 grandchildren.

After a long vacation Smith says he plans to decide how to spend his retirement years.

Y-12 sends its best wishes with all five of its March retirees. May their lives be happy and fruitful.



HOWARD LOVEDAY, DISPATCHING, proudly shows off his grand-daughter (their first grandchild). She is the daughter of Mr. and Mrs. Kenneth Wise, Nashville, born December 15 at Rutherford Hospital, Murfreesboro. The Lovedays live at Route 4, Clinton . . . and the paternal grandparents, Mr. and Mrs. Elbert Wise, live at Route 2.

ASME Meeting Set Tomorrow At U.T.

The Oak Ridge Subsection of the American Society of Mechanical Engineers will meet tomorrow, Thursday, March 28. The U.T.-ASME student chapter will present its annual student paper's contest to the Oak-Ridge-Knoxville sections. The winner and runner-up will advance to the regional conference at Raleigh, North Carolina, in April.

The meeting is set tomorrow at Dougherty Engineering Building, room 216, on the University of Tennessee campus, starting at 7 p.m.

IMPORTANT CAREERS

Two of the most important careers in life are bestowed by chance on amateurs . . . citizenship and parenthood.

Dirty Half Dozen Keep Clean Slate In Volleyball

The Beavers and Dirty Half Dozen still claim top standings in the Volleyball League, both teams still undefeated.

Action began on Court A last week as the Dirty Half Dozen cleaned house with the Neophytes 15-12, 15-5, 15-13, and 15-5.

The Beavers beat the Old Men 15-10, 15-6, 15-4, and 15-3. The K-25 Hawks clawed through three games from the Charley Browns . . . 15-2, 15-7 and 15-12 . . . and the C. B.'s returned to win game four 15-12.

On Court B the Mountaineers took two games 15-9, 15-11 from the Naughts . . . the Naughts won game three 15-12 . . . and the Mountaineers won number four 15-12. The Set-Ups sank the Mix Ups 15-8, 15-1, 15-10 and 15-10. The Ecobums overcame the K-25 Gashouse Gang 15-4, 15-4, 15-5 and 15-4.

League standings follow:

Team	W	L
Beavers, Y-12	16	0
Dirty Half Dozen, K-25	16	0
Ecobums, ORNL	15	1
Neophytes, Y-12	12	4
Old Men, ORNL	12	4
Set Ups, ORNL	8	8
Mountaineers, Y-12	7	9
K-25 Hawks	7	9
Naughts, ORNL	2	14
Charley Browns, ORNL	1	15
K-25 Gashouse Gang	0	16
K-25 Mix Ups	0	16

Badgers Take C Alley Reins

The Badgers pulled out to a one-point lead in the C Bowling race last week thanks to a three-point win over the Invalids. Other three point victories saw the Par-busters blast the Rollmasters, the Big Five roll past the HiLifers, the Royal Flush rout the King Pins and the Fireballs fell the Sunflowers.

The Rounders and Rodders shared two points.

H. D. Whitehead, Badgers, rolled high in scratch counting . . . singles of 247, series of 572. Carl Redding, Sunflowers, hit a new season high in handicap singles with 275, and his 650 series was high for the week.

The Badgers were best in singles, 935 scratch, 1054 handicap; while the Big Five bowled the best series in scratch of 2557, and the Parbusters posted high scores in handicap series with 2964.

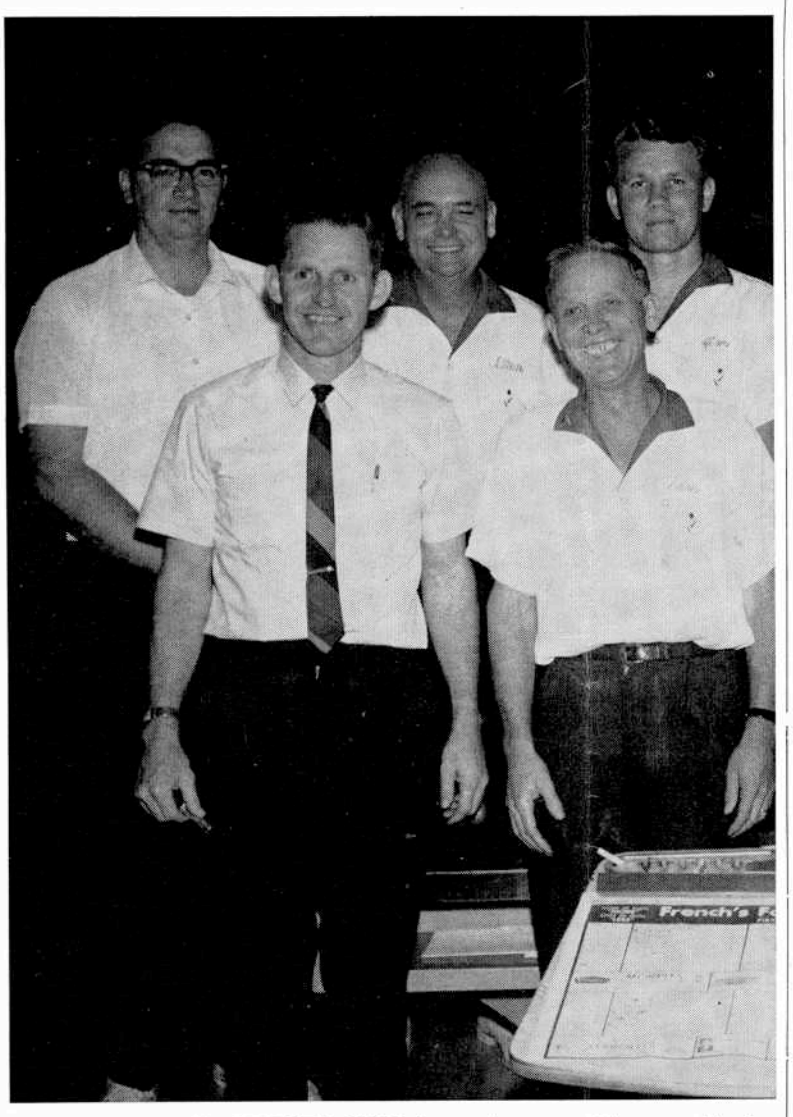
League standings follow:

Team	W	L
Badgers	30	14
Rounders	29	15
Parbusters	28	16
Sunflowers	27	17
Big Five	23	21
King Pins	22	22
HiLifers	21	23
Rodders	20	24
Rollmasters	17	27
Royal Flush	17	27
Fireballs	15	29
Invalids	15	29

KISS OF DEATH

People sure are funny. A fellow we know hadn't kissed his wife in 10 years . . . then went out and shot another man who did.

"Rumley—"



THE MARKERS MARK THEIR WAY through competition weekly in the Classic Bowling League. In the front are Norman Shamblin and Tom Hillard. In the rear are Granvil Underwood, Allen True, and Captain J. E. Bartholomew.

2 Table Tennis Leagues End Play

Only one Table Tennis League is still up for grabs as X and Z leaders nailed down their second-half victories last week.

Geoffrey Newman cinched the crown in the X League by a three point win over Herve Derrien. (He now must face Loyd Wyatt for a play-off as Wyatt took the season's first half). Wyatt blasted Bill Foutz for the full count last week, as did Roy Huddleston, Herb Mook and Bill Motley, all via forfeit.

Jerry Keyes also took an easy victory from Foutz.

Final X League standings:

Player	W	L
Geoffrey Newman	40	2
Loyd Wyatt	27	15
Roy Huddleston	22	20
Herb Mook	22	20
Bill Motley	22	20
Herve Derrien	20	22
Bill Foutz	8	34
Jerry Keyes	7	35

Gordon Brewer holds the rein, but barely in the Y Leauge, after a two game win over Rokuro Oyamada. Bob Coveyou moved up to tie in second place with a three point win over Bob Brown. (Brewer also won the season's first half.)

Y League standings:

Gordon Brewer	32	10
Ed Gambill	31	11
Bob Coveyou	31	11
Paul Kasten	24	13
Al Norris	26	16
Fred Wetzel	16	20
Rokuro Oyamada	15	24
Francois Kertesz	12	30
Art Weinberger	9	16
Bob Brown	0	39

Bill Smith was another 'repeater' winner in the Z League. He will not face a run-off since winning both the first and second half.

Final Z League standings:

Bill Smith	38	1
Ken Toth	17	4
Joe Lewin	21	12
Bill Hackett	22	14
A. B. Meservey	22	14
Tudor Boyd	6	15
Dave Allen	6	30
Winfred Collins	0	39

Nothing said, nothing disclosed.

Bumpers Belt Way Into Classic Lead

The Bumpers barged into a scant lead in the Classic Alley race last week bowling four points better than the Screwballs. Other four-point wins went to the Cubs past the Eagles, and the Smelters over the Playboys.

Three points were earned, as the Swingsters swung by the Eightballs, the Tigers took the Markers, the Rebels routed the Rippers and the Has Beens had the Splinters. Sharing two were the Pinbusters and All Stars.

Tom Hillard, Markers, marked a 237 scratch, 251 handicap single. Bill Stephens, Bumpers, belted a 607 scratch series, and Wayne Groppe, Rippers, rode out a 667 handicap series.

The Bumpers were best all the way . . . singles of 981 scratch, 1078 handicap. Their series of 2768, 3059 were high also.

League standings follow:

Team	W	L
Bumpers	33	19
Rippers	31½	20½
Pinbusters	31½	20½
Eagles	31	21
Swingsters	31	21
Tigers	29	23
All Stars	27½	24½
Markers	26½	25½
Rebels	26	26
Has Beens	25½	26½
Eightballs	25	27
Playboys	24	28
Splinters	21½	30½
Cubs	20	32
Smelters	19	33
Screwballs	14	38

Oak Ridge Tennis Club Sets Opening

Persons interested in participating in the tennis action this Spring in Oak Ridge should get his or her application in soon. Entries are being taken for singles, doubles and mixed doubles.

Application forms are available from Secretary Don Steiner, 425 West Vanderbilt Dr., Oak Ridge, telephone 482-3169. They must be returned by Monday, April 1.

Recreation calendar

Saturday, Sunday
March 30, 31

CRAPPIE RODEO: Blue Springs Boat Dock, 7 a.m. to 5 p.m. Sponsored by E, F, G, H and J Shifts. All Y-12ers welcome.

Monday, April 1

BOWLING: C League, 5:45 p.m. Ark Lanes.

TABLE TENNIS: 7 p.m. Oak Ridge Wildcat's Den.

PHYSICAL FITNESS: (For Women): 7:30 p.m., Oak Ridge High School Girls' Gym.

Tuesday, April 2

PHYSICAL FITNESS: For Men): 7:30 p.m., Oak Ridge High School Gym.

Wednesday, April 3

BOWLING: Mixed League, 8 p.m. Ark Lanes. Position Roll-Off.

Thursday, April 4

BOWLING: Classic League, 5:45 p.m., Ark Lanes.

VOLLEYBALL: Beginning 6:30 p.m. Oak Ridge High School Gym. Court A: Mix Ups vs. Charley Browns; Naughts vs. Old Men; Ecobums vs. Neophytes. Court B: Set Ups vs. Dirty Half Dozen; K-25 Hawks vs. Beavers; Mountaineers vs. K-25 Gashouse Gang.

BADMINTON: Informal Play, employees and spouses, 7:30 p.m., Jefferson Junior High School.

Saturday, Sunday
April 6, 7

CRAPPIE RODEO: Blue Springs Boat Dock, 7 a.m. to 5 p.m. Sponsored by E, F, G, H and J Shifts. All Y-12ers welcome.

Roses 'N Thorns Mixed League Tops

The Roses 'N Thorns took a commanding two-point lead in the Mixed Bowling race last week after a four point victory off the skins of the Hits and Misses. The Alley Cats downed the Rollers by the full count also.

The Twisters took three from the Goofers and the McSprays did likewise from the Mustangs.

Ernest Ely, Mustangs, and Bill Hackett, Roses 'N Thorns, tied in singles . . . 200 scratch 223 handicap. Ely's series of 561 scratch, 630 handicap were high. Gwen McLaughlin, McSprays, took women's honors all the way, but big. Her 208 scratch, 245 handicap . . . series of 575 scratch, 686 handicap were season's highs.

The McSprays swept team honors . . . singles of 668 scratch, 816 handicap . . . series of 1909, 2353.

League standings follow:

Team	W	L
Roses 'N Thorns	33	19
McSprays	31	21
Hits & Misses	28	24
Mustangs	27	25
Twisters	26	27
Rollers	25	28
Goofers	22	30
Alley Cats	18	34

'Hansel & Gretel' Show By Puppets Next Week

The Oak Ridge Branch of the Association for Children Education will sponsor HANSEL AND GRETEL, a Nicolo Marionette production, Tuesday and Wednesday, April 2 and 3, at 4 p.m. and 7 p.m. at the Jefferson Junior High School Auditorium. Admission is 60 cents per person. The performers are members of "The Nicolo Players," a New York-based professional company.

Tickets are on sale at local elementary schools and throughout Oak Ridge for the production.

Health Physics Edge By Bombers, 73-72 In Thrilling Game

The final full week of Basketball action began Monday, March 18, as the Y-12 Chargers downed the Atoms 34 to 20 . . . Larry DeRoos was big man for the Chargers with 12 points.

Ray Leffler left seven on the scoreboards . . . and Ken Brady and Tim Butler were high scorers for the Atoms, 10 and 9 respectively.

The Y-12 Eagles put win number eight under their belt, downing the K-25 Falcons 65 to 36. Four of the high-flying Eagles got into double-scoring, as Dick Boughner led the field with 17, Fred Wetzel and Ron Gamrot gleaned 12, and Red East put 11 under his belt.

Churchill Moore's 24 points for the Falcons looked good, and would have looked better with some help.

The Y-12 Bat Boys made it an evening by trimming the Radioisotopes 55 to 17 in a listless duel.

Hugh Beeson netted 17 through the bucket; Dick Keeler, 12 and Romeo Green and Jim Meincke tallied 10 for the winners.

Frank O'Donnel scored 10 for the losers.

ORNL's two big teams Health Physics and Bombers played probably the season's most exciting game Wednesday. The HP combo eked out a final 10-second victory of 73 to 72 over the second-placed Bombers.

The Bombers played the HP team off their feet for most of the game only to lose it in the last five minutes. The Bombers' big moment came in the second quarter when it seemed they would shoot the HP boys off the court, leaving at half time with a 32 to 20 lead.

Health Physics stole the ball repeatedly in the closing minutes of the game to spell the difference. Jim Treadwell and Larry Finch were tops with 24 and 22 each . . . Jim Carter caught 15. For the losers it was Fred Davenport, 18; and Herm Thomas, 16.

The TK's took the Sharp Shots to the cleaners, scoring at will, 60 to 34. Big Dick Hudson hit everything he threw up at the basket, leading with 29 points.

A very ragged ball game ended play Wednesday night as the Combustion team calmed the Radioisotopes 40 to 24. Some one put a lid on the basket for the Isotopes boys as they scored only four points a quarter for the first three . . . and only 12 in the final period.

Bobby Bell led scoring with 16 through the hoop for the winners . . . Jim Gibson scored 10 of the Isotopes' 24 points.

League standings follow:

Team	W	L
Health Physics, ORNL	9	0
Bombers, ORNL	9	1
Eagles, Y-12	8	1
TK's ORNL	6	3
Combustion, ORNL	5	5
Radioisotopes, ORNL	4	5
Chargers, Y-12	4	5
Atoms, Y-12	3	7
Bat Boys, Y-12	2	8
Sharp Shots, ORNL	1	8
K-25 Falcons	1	9

C Shifters Plan Fishing Rodeo April 10

C Shift is planning a fishing rodeo for Wednesday, April 10. Hours of the contest are from 6 a.m. until 5 p.m. The scene: Blue Springs Boat Dock, Watts Bar Lake.

C Shiftmen say that all Y-12ers and their families are welcome . . . so if Wednesday, April 10 is an SDO for you, come on out.

Say it with safety and save the flowers.

UCC Annual Report Shows 1967 Sales From Outside USA Increases

Continued from Page 1

notably graphite electrodes used in electric furnace steelmaking. Sales of industrial gases and related equipment were also slightly below the record levels achieved in 1966 as a result of the lower operating rate in the steel industry and lower levels of consumption in the aerospace industry. Nevertheless, use of industrial gases in the steel, chemical, and metal-fabricating industries is continuing to increase. Ferroalloy sales in 1967 were also affected by the reduced steel industry demand and by heavy foreign imports. Sales of the newer and more specialized metals were maintained at generally high levels.

Union Carbide spent $85 million for research and development activities in 1967. The corporation's research and development program covers the whole range of modern science, from studies of the basic life processes to the development of new forms of optical communications systems through laser technology.

Among the many new products in the chemicals and plastics field mentioned in the report is a reinforced plastic sheet, which is considered to have significant potential as a substitute for metal in car bodies and other structural automobile parts. Another development, of interest to the agricultural industry, is a precision planting technique that uses a plastic seed tape.

Unusual Graphite Product

An unusual graphite product recently introduced has a property of considerable importance in aerospace applications. It can withstand being heated from room temperature to 6,000 degrees Fahrenheit in less than a second.

Another promising development is the use of high-purity oxygen, instead of air, in copper refining. It is expected to result in similar applications in other industries where oxidation is a factor in the manufacturing process. A high-performance alloy showing promise in jet-engine components combines the oxidation resistance of a widely used nickel-base alloy with the superior high-temperature strength of cobalt-base alloys.

A subsidiary of Union Carbide, Neisler Laboratories, Inc., entered the radiopharmaceutical field early in 1967 as the only drug company served by its own reactor. To date, even radiopharmaceuticals have been made available. They are used primarily in the diagnosis of disorders of the brain, thyroid, lungs, and other organs.

In Europe, several product lines were produced and distributed for the first time—including car care products, cryogenic equipment, and electric welding equipment. Also, marketing of Union Carbide's Ucar brand dry batteries was initiated in nine countries of western Europe.

The report points out that, despite the lower level of sales in 1967, Union Carbide continued its growth program with only minor changes, rather than curtailing it simply to improve short-term earnings. The corporation's long-term expansion program was maintained at a high level throughout the year. This program is based on the growing demand for Union Carbide products and an underlying confidence in prospects for continued economic growth in America and the free world.

Taft Petrochemicals Complex

Union Carbide and its majority-owned subsidiaries invested a total of $479 million during 1967 in the construction of facilities throughout the world. This followed an expenditure of $394 million in 1966. The level of construction spending this year is expected to be somewhat lower than in 1967.

The corporation's most important project is the new Taft, Louisiana, petrochemicals complex. Major new facilities placed in operation there during the year included units for producing ethylene and ethylene oxide, peracetic acid and its derivatives, glyoxal, and aromatic chemicals.

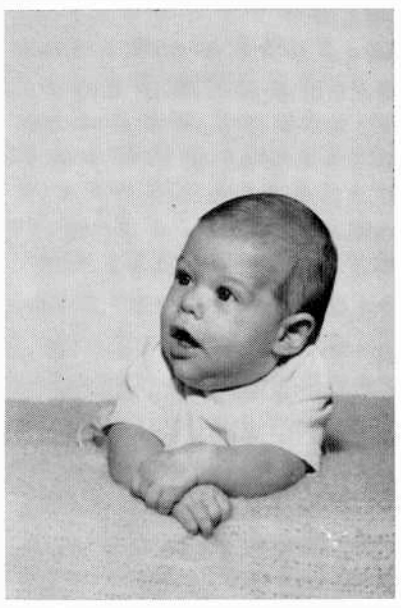
Additional facilities are under way at various locations throughout the world for all major product lines. Significant projects recently completed or under construction in the United States include facilities for ethylene and ethanole at Texas City, Texas; ethylene oxide at Seadrift, Texas; polyethylene at Whiting, Indiana; a new phenol plant at Bound Brook, New Jersey; additions to an oxygen and nitrogen production facility and pipeline complex at Gary, Indiana; a large refractory metals center and special alloys finishing plant in Kokomo, Indiana; and a new vanadium mine and milling facility in Hot Springs, Arkansas. Plans were under way during the year for a major expansion of the corporation's petrochemicals complex in Puerto Rico and for new facilities on the island to produce graphite electrodes and food casings.

In the Pan American area, where Union Carbide's affiliated companies employ almost 13,000 people and operate 104 plants, there are several key projects. Among them are extensive expansions of chemicals and plastics facilities in Montreal, Canada, and Cubatao, Brazil. Also, a new electrode plant is being built in Salvador, Brazil and a plant to produce battery electrodes came into production in 1967 in Mexico.

One of the key projects in the European and Mediterranean area, where affiliated companies operate 45 plants and employ 20,000 people, is a large petrochemicals complex at Antwerp, Belgium, which is undergoing extensive expansion. Units are under construction there for both chemicals and industrial gases. Near Thebes, in Greece, a plant is being built to manufacture dry cell batteries.

A large-scale chemicals and plastics expansion was completed near Bombay, India, in 1967. Major expansions in polyethylene resin capacity also came on-stream i nAustralia and Japan.

The corporation's first Eveready battery plant in Africa began production in Nakuru, Kenya, in 1967.



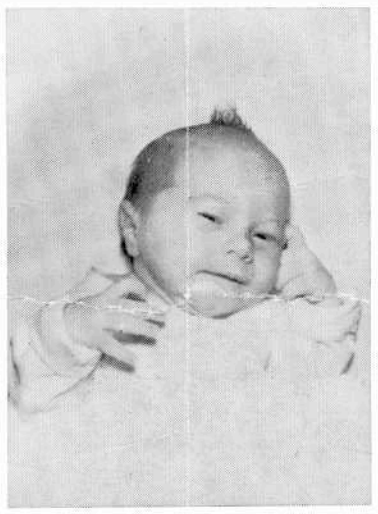
BRIAN LEE JENKINS has already been dubbed "Tiger" by his grandfather. Brian, born November 16, is the son of Leon and Deborah Jenkins . . . and the grandson of Ed and Goldie Armstrong. Ed is in the Fabricating Department Field Shop, 9204-1.

UCC Marietta Plant Expansion

Construction of an eight-million - pound - per - year dichlordiphenylsulfone facility is underway at Marietta, Ohio, according to a recent announcement from Birny Mason Jr., chairman of the board of Union Carbide Corporation. The multi-million dollar facility is scheduled to be completed and on-stream by mid-1968. Dichlordiphenylsulfone is the basic building block for polysulfone, one of the strongest, most heat-resistant engineering thermoplastics yet developed. This thermoplastic was introduced by Union Carbide in 1965.

The new facility, together with the existing commercial bisphenol-A unit and the polysulfone unit, will make Marietta an integrated production location for polysulfone. It will help fill the increasing demand for the relatively young plastic in important electronic, electrical, automotive, and appliance applications — where great dimensional stability, strength, and long-term resistance to high and low temperatures are required.

Many millions of polysulfone "carriers" for integrated circuits are being used in the electronics industry. (Carriers are used as holders for solid state integrated circuits prior to installations in computers, radios, TV's, and other electronic equipment.) They protect these delicate devices through extreme handling conditions and environmental testing where temperatures range from 150 degrees F. below zero to 325 degrees F. above zero. Following this, they function as a shipping container that is also vital in automatic assembly of the total electronic circuit. Among the other commercial uses for this promising new material are vital computer components, liners for coffee makers, shades for high intensity lamps, oven knobs for kitchen ranges, and parts for home humidifiers.



JEFFREY LYNN CRAIG was born Tuesday, January 30, to Mr. and Mrs. James Carl Craig, weighing eight pounds, four ounces. The grandparents are Mr. and Mrs. H. E. Moore, and Mr. and Mrs. J. C. Craig, Lenoir City. Moore is in Y-12's Process Maintenance.

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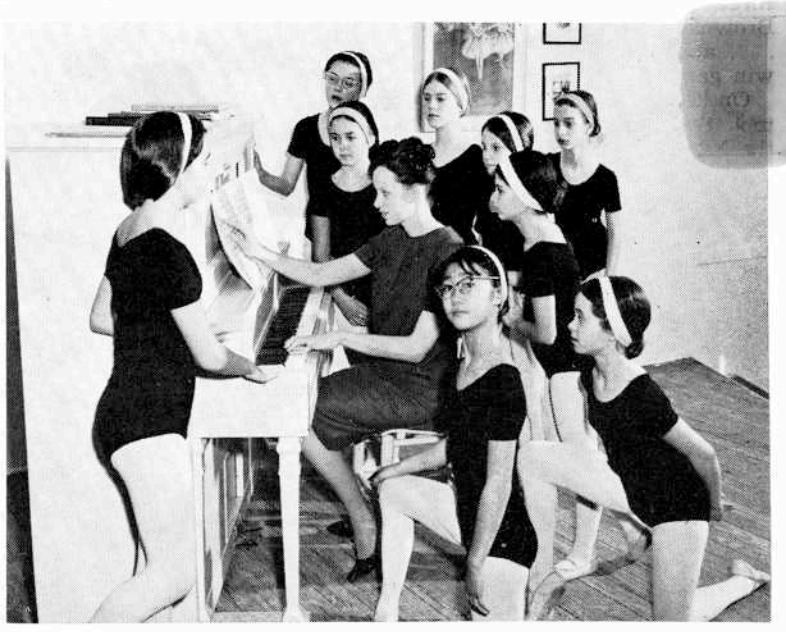


THE OAK RIDGE CIVIC BALLET apprentices above practice with Mrs. Daryle McCaslin at the piano. In the front row are Kendra Albright, Ann Makinodan, kneeling and Micheale Walter. In the center around the pianist are Pat Whatley, Ellen Ferguson and Kim Griffith. In back are Linda Groppe, Janet Boyd and Marty Toomer.

Oak Ridge Civic Ballet Group Will Give Performances Friday, Saturday

The Oak Ridge Civic Ballet Association will present its Spring performance April 5 at 8:20 and at 1:30 p.m. Saturday, April 6.

They will both be given at the Oak Ridge Playhouse in Jackson Square. Miss Chanoorn Harinsuit of Bangkok, Thailand will be featured guest artist performing a classical Thai dance.

The ensemble will perform "Tarentelle," "Polka," from Age of Gold, "La Lecon," and "Les Patinuers."

Mrs. Daryle McCaslin is pianist for the ballet group, and apprentices include Kendra Albright, Ann Makinodan, Micheale Walter, Pat Whatley, Ellen Ferguson, Kim Griffith, Linda Groppe, Janet Boyd and Marty Toomer.

Argonne's Friedman Guest At Physics Seminar

Argonne National Laboratory's A. Friedman will lead this week's Physics Division seminar. His subject will be "Studies of Single-Particle Neutron Levels in the Actinides by Use of (d,p) and (d,t) Reactions."

The seminar is set for Friday, March 29, at 3:15 p.m. in the East Auditorium of ORNL's 4500 building.

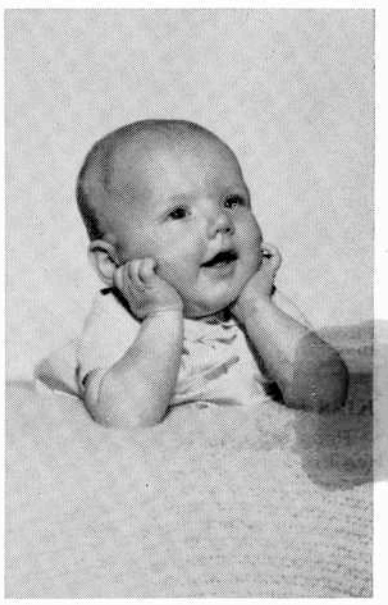
Uranium Oxide Pact Made With Westinghouse

Union Carbide Corporation and Westinghouse Electric Corporation have reached an agreement on a contract whereby Union Carbide will supply Westinghouse with 4,000,000 pounds of contained U_3O_8 for delivery during 1970-1973. The product will be supplied from Union Carbide's mining and milling operations on the Colorado Plateau and in the Gas Hills of Wyoming.

The uranium oxide will be further processed into fuel components for nuclear reactors.

PROBLEMS SOLVED

It's too bad we don't have all our problems at one time . . . say at about the age of 17 when we know everything.



NOW LET ME SEE, where was I? Wayne Allen Aull II was born last November 8 . . . the son of Mr. and Mrs. Wayne Allen Aull. Mrs. Aull is the daughter of E. W. McGhee, Process Maintenance . . . which automatically makes him grandfather of Wayne, naturally. And naturally very proud he is, too.

The best way in the world to make your old car run better is to ask the price of a new model!